

Application No. 09/779,461
Attorney Docket P64765US1

ABSTRACT

9, A method for characterizing samples having fluorescent particles has method steps of: (a) monitoring intensity fluctuations of fluorescence emitted by the particles in at least one measurement volume by detecting sequences of photon counts by at least one photon detector, (b) determining from the sequences of photon counts intermediate statistical data having at least two probability functions, $\hat{P}_1(n_1), \hat{P}_2(n_2), \dots$, of the number of photon counts, n_1, n_2, \dots , detected in different sets of counting time intervals, (c) determining from the intermediate statistical data a distribution of particles as a function of at least two arguments, wherein one argument is a specific brightness of the particles, or a measure thereof, and another argument is a diffusion coefficient of the particles, or a measure thereof.